



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW4460  
 UNIQUE ID NUMBER: 1PW052  
 COMBUSTOR: Reduced smoke  
 ENGINE TYPE: TF

BYPASS RATIO: 4.5  
 PRESSURE RATIO ( $\pi_{00}$ ): 32.4  
 RATED THRUST ( $F_{00}$ ) (kN): 266.9

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	3.4	33.3	61.1	10.7
AS % OF ORIGINAL LIMIT	17.3	28.2	58.3	59.1
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			72.9	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			86.2	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			95.8	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			111.3	

### DATA STATUS

- PRE-REGULATION  
 x CERTIFICATION  
 - REVISED (SEE REMARKS)

### TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES  
 - DEDICATED ENGINES TO PRODUCTION STANDARD  
 - OTHER (SEE REMARKS)

### EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE  
 (ANNEX 16 VOLUME II)

### CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)  
 x OUT OF PRODUCTION (DATE: - )  
 - OUT OF SERVICE (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO <sub>x</sub>	
TAKE-OFF	100	0.7	2.647	0.10	0.37	32.80	8.3
CLIMB OUT	85	2.2	2.085	0.03	0.51	24.70	
APPROACH	30	4.0	0.703	0.14	1.78	12.00	
IDLE	7	26.0	0.213	1.66	20.32	4.90	
LTO TOTAL FUEL (kg) or EMISSIONS (g)			887	595	7234	14097	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				2.2	27.1	52.7	8.3
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS  
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	100.2
TEMPERATURE (K)	299
ABS HUMIDITY (kg/kg)	0.01

### FUEL

SPEC	Jet A
H/C	1.88
AROM (%)	19.7

MANUFACTURER: Pratt & Whitney  
 TEST ORGANIZATION: Pratt & Whitney  
 TEST LOCATION:  
 TEST DATES: 17/08/1987-23/08/1987

### REMARKS

1. Data from X698-5 with reduced smoke combustor.

Compliance with Fuel Venting requirements: - ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)